

Remarks

In part 2 of the official action, the Examiner objects to the drawings under PCT Rule 11. As the Examiner will note by reference to this amendment, the pages to which the Examiner objected to the lack of well-defined lines and strokes, new formal drawings accompany this response. It is believed, with the entry of these new formal drawings, that this grounds for objection will now fall away.

In paragraph 4 of the official action, the Examiner rejects claim 24 under 35 U.S.C. 112, first paragraph. As the Examiner will note by reference to the amendments made above, claim 24 has been canceled, without prejudice, and therefore this grounds for rejection falls away, at least for now.

In part 5 of the official action, the Examiner rejects claims 11 and 15 under 35 U.S.C. 112, second paragraph, as allegedly being unclear. As the Examiner will note by reference to the amendments made to claims 10 and 11 by this amendment, the issues raised by the Examiner in the official action have been addressed and it is hoped that the Examiner will agree that this grounds for rejection has now been overcome.

The Examiner rejected claims 1, 9 and 22 under 35 U.S.C. 103 as being unpatentable over Neumann in view of Fidi. This grounds for rejection is respectfully traversed.

It is noted that within the official action the Examiner agrees that Neumann does not meet all of the limitations of the claims, but cites Fidi as allegedly making up for that which Neumann does not teach. With all due respect to the Examiner, the Applicant disagrees with the Examiner's analysis.

First, the Examiner indicates that Neumann does not teach that the ultrasonic signals were provided through front and rear channels to the left and right ears of a user. By the same token, Fidi does not teach that any signals, ultrasonic or otherwise, are to be provided through front and rear channels to the left and right ears of the user. Thus, Fidi does not make up for this lack of teaching in Neumann. The Examiner tells the

Applicant, on page 7 of the official action, that the signal processing pass of Fidi, in view of the signal reception and processing scheme of Neumann, reads on "provide ultrasonic signals to through front and rear channels to the right and left ears of a user." With all due respect to the Examiner, saying something is true does not necessarily make it so. Since neither Fidi nor Neumann apparently talk about front and rear channels, it would appear that the Examiner's assertion must be being made upon either facts within the Examiner's own purview or based upon other prior art references that are not a part of the rejection. If the Examiner has additional prior art to cite to support his contentions, then the Examiner should cite such additional prior art and explain what would be the motivation to combine such prior art with the prior art already of record in any future rejections. If the information is coming from the Examiner's own knowledge, then the Applicant requests that the Examiner comply with the Rules of Practice and present that information in Affidavit form as required by 37 CFR 1.104(d)(2).

However, in absence of any such additional teaching, it is not understood how the two cited prior art references, however they might be combined, can possibly read upon the rejected claims.

With respect to the Examiner's discussion regarding the alleged motivation to combine Fidi with Neumann, the Examiner fails to discuss just what is the motivation for making the suggestions made by the Examiner, nor is it understood exactly what the resulting structure would look like.

As a starting point, consider Neumann's two embodiments. Figure 1 is a monaural embodiment, having a single ultrasonic transducer 3 whereas Figure 2 shows a stereo embodiment having two ultrasonic transducers 17 and 18. The stereo input signals occur at numerals 21 and 22 of Figure 2 of Neumann at the input to modulators 19 and 20 of the transmitters. Well, if there is to be additional signal processing in order to provide "true auditive originality and enhance the localization of the audio signals" as suggested by the Examiner, is the enhancement supposed to occur before the signals at numerals 21 and 22 are applied to modulators 19 and 20, or is the processing supposed

to occur within the dotted box shown in Figure 2 of Neumann or at some other place? Fidi shows a number of time-delayed signals that are processed. How are those signals supposed to reach the user's ears when the disclosures of the two references are combined? Which signals of Fidi are supposed to be transmitted ultrasonically and which signals are supposed to be transmitted electrically? Where is that supposed to occur within the apparatus disclosed by Neumann?

Since the Examiner has not analyzed these issues, the Applicant has no idea as to how the Examiner proposes to combine the teachings of these two prior art references. Once the Examiner has described how he proposes to combine these two references in some logical fashion based upon their own teaching, then the issue will come up as to whether or not that combined teaching apparatus, assuming that one exists, anticipates the present claims.

More importantly, it is submitted that a person of ordinary skill in the art would be motivated not to combine Fidi and Neumann. Neumann is concerned with allowing a user to use headphones yet still locate sounds by moving his or her head. One of the problems with headphone systems, according to Neumann, is that you cannot properly locate sound sources when moving your head using conventional headphone systems. The reason for this is that the imaginary position turns together as the user turns his or her head. The imaginary sound positions of the sounds heard do not stay fixed as a user, using headphones, moves his or her head. In Fidi, on the other hand, in order to simulate being in a room, for example, the sound sources are subject to different delays (τ_2, τ_3) and, moreover, apparently to different weighting functions. However, in Fidi, there is no discussion of varying either the time delays or the weighting functions of the delayed signals as a function of rotating the person's head H off axis 7 (see Figure 4 of Fidi).

In short, Fidi basically provides a simplified scheme for trying to imitate the effect of sounds bouncing off walls, but in accordance with Fidi's teaching, those walls are fixed with reference to the axis of the hearer's ears. The walls effectively move as the user

moves his or his head. Neumann, on the other hand, does not want any walls fixed with reference to the axis of the hearer's ears since, as a user moves his or her head in the sound environment, the sound environment is supposed to adjust appropriately through the headset for him or her. That means that the walls do not move as the user moves his or her head, but rather are fixed relative to the sound environment.

How are these disparate teachings supposed to be logically combined? If the person of ordinary skill in the art adopts Fidi's teachings, then they destroy the teachings of Neumann. With all due respect to the Examiner, that simply does not make sense.

In summary, the Applicant's difficulty with this prior art rejection is as follows:

First, the Examiner has not explained how each and every limitation of the claims would be met by the proposed combination. Second, the Examiner has not identified exactly how a person of ordinary skill in the art would allegedly combine these two references. Third, contrary to the Examiner's assertion that a person of ordinary skill in the art would find it desirable to combine these two references, the Applicant submits that just the opposite is the case since the teachings of Fidi are utterly inconsistent with the teachings of Neumann, and vice versa.

Claims 11, 15 and 23 were rejected based upon Neumann in view of Fidi, further in view of Inanaga (EP 438281). This grounds for rejection is respectfully traversed.

First, it is believed that Neumann and Fidi cannot be logically combined for the reasons set forth above and, moreover, even if it were logical to combine the two references, it is not seen how all of the limitations of the claims are met by the combination.

With respect to Inanaga, it is submitted that a person of ordinary skill in the art would not be led to combine Inanaga with Neumann. Both of these documents deal with a similar issue, that is, allowing a person to use headphones and allowing him or her to move his or her head in a sound environment with imaginary sound sources staying fixed within that sound environment as they move their head. However, in Inanaga,

the time differences are imposed electronically as opposed to sonically, as in Neumann. The outputs of amplifiers of 28L and 28R are applied electrically to the headphone for reproduction. This allows the signals to reach the headphone in essentially zero time (i.e. essentially at the speed of light), as opposed to sonically as done in Neumann. As such, it is submitted that a person of ordinary skill in the art presented with these two references would either decide to solve the problem according to the teachings of Neumann or according to the teachings of Inanaga, but there would be no motivation whatsoever to try to combine the two teachings, since that would just complicate the apparatus for no reason and likely cause problems in trying to determine just what time delays would be appropriate to impose electrically.

Concluding Remarks

The basic problem with the Examiner's analysis is that the Examiner is using Applicant's claims as a roadmap to the prior art. The Examiner finds a word here or a few words there in a claim and reads those words on one prior art reference, and then finds a few words in another part of the claim and reads that on a completely different prior art reference without giving due consideration to the issue of whether or not a person of ordinary skill in the art would be motivated to combine the two references, in the manner suggested by the Examiner, if they did not have reference to Applicant's patent application.

Probably any prior art reference that the Examiner reads in the sound reproduction arts will likely tell the reader that he disclosed technology has certain benefits in terms of making the sound better or louder or more realistic, or something. But that, by itself, does not mean that it would be necessarily obvious to combine the teachings. Take Inanaga and Neumann, for example. Why combine the teachings of those two references when one seems to be a more modern substitute for the other? With all due respect, is the Examiner combining the teachings simply to try to concoct a reason for rejecting the claims or is it being done because a person of ordinary skill in the art would be motivated to combine the two references? It is submitted that a person of ordinary skill in the art would not be motivated to combine the two references since

Inanaga apparently addresses the same problem that Neumann does, but in a more modern technological environment.

With respect to Fidi and Neumann, it is submitted that their teachings are incompatible, since Fidi's technology appears to destroy Neumann's technology, at least when a person of ordinary skill in the art reads the two references. As such, why are they being combined? It is not proper to use Applicant's claims as a roadmap to the prior art.

Rather, the prior art must be considered as to what it teaches, without reference to Applicant's claims and disclosure, and see if that teaching anticipates the claimed invention.

In this case, it is submitted that the Examiner has applied an improper hindsight, claim-roadmap approach in making the rejections as opposed to looking at what the prior art really teaches.

Reconsideration of this application as amended is respectfully requested.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

I hereby certify that this correspondence is being deposited with the United States Post Office with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents

POB 1450, Alexandria, VA 22313-1450 on

July 8, 2004

(Date of Deposit)

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Respectfully submitted,



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Enclosures: Replacement Drawing Sheets